

AMENDMENT TO THE CLAIMS

Please amend the pending claims as follows:

1. (Original) A method of testing a storage battery, comprising:
 - (a) measuring a dynamic parameter of the battery;
 - (b) obtaining an open circuit voltage of the battery;
 - (c) measuring a temperature of the battery;
 - (d) obtaining a fixed current value at which the battery is to be discharged;
 - (e) calculating an activation voltage based on the measured and obtained conditions of the battery in steps (b) and (c); and
 - (f) predicting a discharge voltage of the battery as a function of the measured battery dynamic parameter, the calculated activation voltage of the battery and the fixed current value, the discharge voltage indicative of a vehicle starting capability of the battery.
2. (Original) The method of claim 1 further comprising comparing the discharge voltage with a minimum starting voltage.
3. (Original) The method of claim 2 further comprising providing an output indicative of the vehicle starting capability of the battery based on the comparison of the discharge voltage with the minimum starting voltage.
4. (Original) The method of claim 1 wherein the dynamic parameter measurement step (a) comprises determining a response of the battery to an applied current pulse.
5. (Original) The method of claim 1 wherein the measured battery

dynamic parameter is battery conductance.

6. (Original) The method of claim 1 wherein the measured battery dynamic parameter is battery resistance.

7. (Original) An electronic battery tester comprising:

- a positive connector coupled to a positive terminal of the battery;

- a negative connector coupled to a negative terminal of the battery;

- a voltage sensor configured to measure an open circuit voltage of the battery;

- a temperature sensor configured to measure a temperature of the battery;

- an input configured to receive a fixed current value at which the battery is to be discharged; and

- battery test circuitry configured to measure a dynamic parameter of the battery using the first and second connectors, and to predict a discharge voltage of the battery as a function of the measured battery dynamic parameter, a calculated activation voltage and the fixed current value.

8. (Original) The apparatus of claim 7 wherein the battery test circuitry is further configured to compare the discharge voltage with a minimum starting voltage.

9. (Original) The apparatus of claim 8 wherein the battery test circuitry is further configured to provide an output indicative of the vehicle starting capability of the battery based on the comparison of the discharge voltage with the minimum starting voltage.

10. (Original) The apparatus of claim 7 wherein the measured battery dynamic parameter is battery conductance.

11. (Original) The apparatus of claim 7 wherein the measured battery dynamic parameter is battery resistance.

12. (Original) A method of testing a storage battery, comprising:

- (a) measuring a dynamic parameter of the battery;
- (b) obtaining an open circuit voltage of the battery;
and
- (c) measuring a temperature of the battery;
- (d) obtaining a fixed voltage value at which the battery is to be discharged;
- (e) calculating an activation voltage based on the measured and obtained conditions of the battery in steps (b) and (c); and
- (f) predicting a discharge current of the battery as a function of the measured battery dynamic parameter, the calculated activation voltage of the battery and the fixed voltage value, the discharge current indicative of a vehicle starting capability of the battery.

13. (Original) The method of claim 12 further comprising comparing the discharge current with a minimum starting current.

14. (Original) The method of claim 13 further comprising providing an output indicative of the vehicle starting capability of the battery based on the comparison of the discharge current with the minimum starting current.

15. (Currently Amended) An apparatus for monitoring the condition of a storage battery while the storage battery is coupled in parallel to an electrical system of an operating

vehicle, comprising:

- a first electrical connection directly coupled to a positive terminal of the battery;
- a second electrical connection directly coupled to a negative terminal of the battery, the first and second electrical connections coupled to a voltage sensor to measure an open circuit voltage across the battery;
- a third electrical connection directly coupled to the positive terminal of the battery;
- a fourth electrical connection directly coupled to a negative terminal of the battery, the third and fourth electrical connections coupled to a forcing function having a time varying component;
- a current sensor electrically in series with the battery;
- a temperature sensor configured to measure a temperature of the battery; and
- a microprocessor configured to determine a dynamic parameter of the battery based upon the measured voltage, the forcing function and the current sensed by the current sensor, and further configured to predict a discharge voltage of the battery as a function of the measured battery dynamic parameter, a calculated activation voltage of the battery and thea fixed current value at which the battery is to be discharged.

16. (Original) The apparatus of claim 15 wherein the microprocessor is further configured to compare the discharge voltage with a minimum starting voltage.

17. (Original) The apparatus of claim 16 wherein the

microprocessor is further configured to provide an output indicative of the vehicle starting capability of the battery based on the comparison of the discharge voltage with the minimum starting voltage.

18. (Original) A method of determining the starting capability of a vehicle, comprising:

- (a) measuring a dynamic parameter of a vehicle battery;
- (b) obtaining an open circuit voltage of the battery;
- (c) measuring a temperature of the battery;
- (d) obtaining a fixed current value at which the battery is to be discharged during the start;
- (e) calculating an activation voltage based on the measured and obtained conditions of the battery in steps (b) and (c); and
- (f) predicting a discharge voltage of the battery as a function of the measured battery dynamic parameter, the calculated activation voltage of the battery and the fixed current value, the discharge voltage indicative of the starting capability of the vehicle.

19. (Original) The method of claim 18 further comprising comparing the discharge voltage with a minimum starting voltage.

20. (Original) The method of claim 19 further comprising providing an output indicative of the starting capability of the vehicle based on the comparison of the discharge voltage with the minimum starting voltage.